

21st Century Learning **Discussion Guide**



We are the future.

A person's arm and hand, wearing a patterned orange and white long-sleeved shirt, are visible on the left side of the page, pointing towards the Earth. The background is a view of the Earth from space, showing the curvature of the planet and the blue and green of the oceans and continents against the blackness of space with some stars.

21st Century Education in New Brunswick



Worldwide, the accelerating technological advances of the 21st Century are affecting societies, economies and individuals. People are using new media to communicate. Employers are looking for employees with new kinds of skills. Citizens are challenged to be engaged, critical thinkers. Societies that do not keep up with these changes will be left behind.

International research and experience clearly shows that education is the most effective investment that New Brunswick can make to prepare its students, economy and society for the future. This investment will involve a fundamental shift in the focus of the public education system.

The Anglophone Sector of the Department of Education and its learning partners are preparing to participate with New Brunswickers in a collaborative effort to establish a strategy to meet the challenges and opportunities of the 21st Century. This is an “officials’ perspective” on public education priorities and the strategy’s title defines its dual focus: NB3-21C.

“NB3” reflects a continued focus on ensuring that students achieve proficiency in the three core subject areas: literacy, numeracy and science. Through regular assessment of student achievement, learning needs are identified and educational strategies are improved to increase student success.

“21C” represents the 21st Century skills that students require, and the 21st Century learning model that will prepare them with those skills. These skills and qualities include critical thinking, collaboration, creative problem solving, effective communication, technological literacy, personal development, leadership, and an awareness of oneself as an individual and global citizen.

Effective education today is critical to New Brunswick’s social and economic future. The need for change is urgent, and NB23-21C is how the change will occur.

Proposed New Brunswick Competencies

The following competencies represent the proposed 21st Century learning goals for New Brunswick students. These competencies will be developed throughout a child's school experience, beginning in kindergarten and culminating with high school graduation. A key goal of public education is to instill in students an appreciation for learning and a desire to make learning a life-long pursuit. It is the responsibility of each student, and each student's parents or guardians, school and community to collaborate in developing the personal competencies of all students. Over time, this collaboration will form the basis for a stronger culture of learning in New Brunswick.

1. Critical thinking and creative problem solving

Students will know and be able to use strategies and processes to solve problems, to think creatively, to understand deeply and conduct meaningful reflection. Through innovation ideas, entrepreneurship, and/or artistic expression, students will demonstrate that they:

- have learned the elements and processes associated with critical thinking and problem solving.
- have a deep understanding of complex concepts and the ability to work creatively in order to generate new ideas, theories, products and knowledge.
- have learned to think logically and to solve ill-defined problems by identifying and describing the problem, framing and testing hypothesis and by formulating creative solutions.
- have explored and reached an understanding of their own creative talents and how best to make use of them.
- are able to acquire, process and interpret information critically to make informed decisions.

2. Collaboration

Students will be able to interact with others in generating ideas and developing products. They will use appropriate interpersonal skills within a variety of media and social contexts. Students will demonstrate that they:

- understand how to relate to other people in varying contexts, including those in which they manage or are managed by others.
- are able to collaborate across networks, using various technologies.
- are able to effectively participate as a team member and know their own capacities for filling different team roles.
- have developed proficiency in managing personal relationships.
- are able to use various means to manage conflict.
- understand the creative process through collaboration, exchange of ideas and building upon the achievement of others.
- have been sensitized to the issues and processes associated with collaborating across cultures.



3. Communication

Students will be able to communicate effectively using the listening, viewing, speaking, reading and writing modes of language(s), the arts, and mathematical and scientific concepts and symbols. They will communicate using a variety of media and technologies. Students will demonstrate that they:

- explore, reflect on and express their own ideas, learning, perceptions and feelings.
- understand ideas and relationships presented through words, actions, numbers, symbols, graphs, images and charts.
- have a level of proficiency in the second official language.
- manage, access, process, evaluate and present information clearly, logically, concisely and accurately for a variety of audiences.
- critically interpret and evaluate ideas presented through a variety of media.
- think divergently and creatively through use of analogies, metaphors and visual thinking.

4. Personal development and self awareness

Students will be resourceful, reliable and resilient. They will see themselves as capable learners, aware of their own potential. They will make well-informed, healthy choices that contribute to the well-being of themselves and others. Students will demonstrate that they:

- make decisions and take responsibility for those decisions.
- pursue an active, healthy lifestyle.
- have developed techniques for managing change, risk and uncertainty in a wide range of contexts.
- have persistence and determination.
- are self-motivated and have a “can-do” attitude.
- acknowledge and consider different points of view.
- are able to take control of learning.
- are well positioned and prepared for post-secondary studies.

5. Global citizenship

Students will be able to assess social, cultural, economic and environmental interdependence in a local, national and global context. Students will demonstrate that they:

- understand the dynamic interactions of Earth’s systems, the dependence of our social and economic systems on these natural systems, our fundamental connection to all living things, and the impact of humans upon the environment.
- comprehend Canada’s political, social and economic systems in a global context.
- are able to critically analyze the social, political and economic forces that have shaped the past and present and apply those understandings in planning for the future.
- understand key ideas and concepts related to democracy (for example: human rights).
- comprehend the contributions of multiculturalism to society, and comprehend cultural and societal diversity in local, national and global contexts.
- possess the dispositions and skills necessary for effective civic engagement.
- use creative and critical thinking to develop innovative solutions to complex societal and environmental problems.



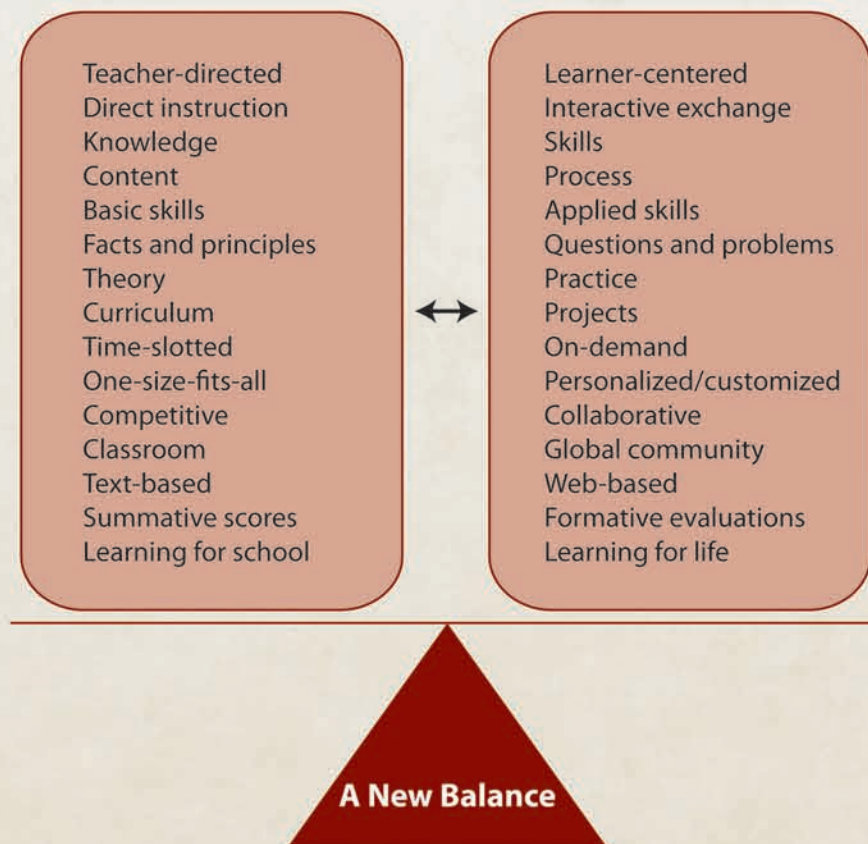
NB3-21C: Three Year Plan

Making the 21st Century Shift

In order to focus on the learning needs of new millennium learners, a significant shift in our current learning model is required, touching on every one of public education's core business areas. The essence of the shift is the need to move from a teacher-directed to a learner-centred learning model. The flexible, analytical, engaged and motivated graduate who will succeed in the 21st Century is not the product of a learning environment where teachers take centre stage and students passively receive and recite information. The business of learning belongs to the student, and as such, must focus on the learner, with the teacher providing valuable supports and facilitation. The shift affects learners by engaging them in the identification of problems to be solved through learning, the researching and creation of information to solve those problems, and the analysis of the world they live in. Students develop collaborative skills as they reach out to peers and resources in the school, the community and beyond to complete real-world projects that are relevant to their own lives. True engagement of learners in the early years prepares students to be the life-long learners demanded by the 21st Century.

The following graphic, borrowed from 21st Century Skills (*Trilling and Fadel, 2009*), illustrates the shift from a teacher-directed model to a learner-centred environment.

21st Century Competencies Shifting the Learning Balance



21st Century Skills (*Trilling and Fadel, 2009*)

Each of the key elements that need to shift has been clearly identified in 21st Century related research and literature. A graphic developed by the Partnership for 21st Century Skills, and provided below, effectively represents the relationship between 21st Century skills *student outcomes* (as represented by the arches of the rainbow) and 21st Century *skills support systems* (as represented by the pools at the bottom).

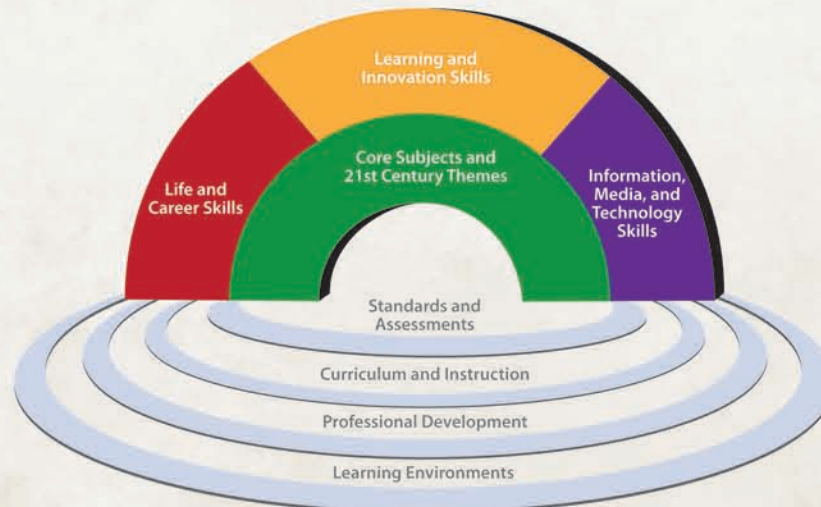


Image from Partnership for 21st Century Skills

While the shift in each of the areas represented by the graphic will naturally have to occur over time, the faster it occurs the more relevant public education will be to today's learners. The challenge will be twofold: to introduce the changes in each of the shift elements in a highly integrated fashion, and to balance the pace of these shifts with the capacity of the system to accept and absorb them. With respect to the role of ICT, we believe that the proper and systemic integration of ICT into public education will enable the shift to occur faster, as well as facilitate the twin objectives of more fully engaging learners and improving student achievement in the targeted areas.

Key Shift Elements

As noted above, the *key shift* elements actually reflect public education's core business areas, with each one needing to be considered as we shift to a 21st Century learning model. NB3-21C is a three-year plan with an overall vision, a goal and a set of specific objectives related to each of the aforementioned elements.

Vision

A 21st Century learning model for the Anglophone Sector of public education in New Brunswick

Goal

Shift to a 21st Century learning model in three years.

Learn More about 21C

NB3-21C Video

The Department of Education (Anglophone Sector) released this NB3-21C video at Summit II in St. Andrews on March 24, 2010 to stimulate conversation about the need to shift to a focus on 21st Century competencies in our schools:

- www.youtube.com/watch?v=EjJg9NfTXos.

Deputy Minister's Blog

Deputy Minister of Education (Anglophone Sector), John Kershaw, has been documenting New Brunswick's progress towards a 21st Century agenda. You can access his posts at [itBusiness.ca](http://itbusiness.ca).

- <http://blogs.itbusiness.ca/category/career-corner/>

Videos

If you search the Internet, you will find many videos on the topic of 21st Century skills and education. For example, Pearson Publishing and others have extensive collections that are sure to foster discussion and debate. Here are a few to begin with. The first two feature recognized educational authorities such as Ken Kay and Steven Heppell:

- A comment on the transformation needed in educational thought:
www.youtube.com/watch?v=0eGHAuV5yLo
- A dialog about teachers being able to keep students engaged:
www.youtube.com/watch?v=BHiby3m_RyM&feature=channel
- A video of Henry Jenkins (director of MIT's Comparative Media Studies Program) on parent participation:
www.edutopia.org/digital-generation-henry-jenkins-parents-video
- Katie Salen discusses Quest to Learn, the first public school in the U.S.A. based on the principles of game design—a potential model for school innovation: www.youtube.com/watch?v=kHtj6PCpyLQ

Websites

In addition to videos, the Internet offers a wide range of resources on 21st Century skills and education.

- A great primer on the 21st Century educational philosophy, including resources and accounts of schools, districts and states in pursuit of 21st Century education: www.p21.org/route21
- A report from the Metiri Group, arguing for the immediate movement to a 21st Century agenda in education: www.metiri.com/21st%20Century%20Skills/PDFtwentyfirst%20century%20skills.pdf
- Don't miss this report from Partnership for 21st Century Skills on the need for 21st Century skills: www.p21.org/downloads/P21_Report.pdf
- A commercial site describing 21st Century skills and why they are needed: www.21stcenturyschools.com/What_is_21st_Century_Education.htm

Books

Twenty-first Century skills do not exclude the reading of traditional books, and you can find excellent reading about 21st Century skills and education in "hard copy."

- **21st Century Skills: Learning for Life in Our Times**, by *Trilling and Fadel*
An excellent primer and an easy read, this book makes the case for 21st Century skills with research and examples from around the world. It includes a CD of teaching examples. www.21stcenturyskillsbook.com
- **The World Is Flat**, by *Thomas L. Friedman*
An account of the lightning-swift advances in technology and communications that put people across the globe in touch as never before, creating an explosion of wealth in India and China, and challenging the rest of us to run ever faster just to stay in place
- **Disrupting Class**, by *Clayton M. Christensen*
A well thought-through proposal for using technology to better serve students and bring our schools into the 21st Century. This call for serious educational reform is likely to be resisted by defenders of the status quo.

This image shows a full page of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page, typical of notebook paper. There is no handwriting or other markings on the page.

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